ABSTRACT OF THE DISCLOSURE

A method and apparatus for making cylindrical glass preforms with convex, optical quality convex end surfaces is taught. A glass ball preform is placed on a heated lower platen. The temperature of the glass ball preform is raised to a temperature above the glass transition temperature of the glass ball preform. The glass ball preform is engaged with an upper platen. At least one of the upper platen and the lower platen is moved vertically to cause the gap between the upper platen and the lower platen to narrow to a predetermined dimension. Simultaneously, at least one of the upper platen and the lower platen is moved horizontally relative to the other platen to cause the glass ball preform to roll between the upper platen and the lower platen and form a cylindrical preform having a predetermined diameter, the cylindrical preform having convex, optical quality end surfaces.